Watershed Evaluations

03050110-010

(Congaree River)

General Description

Watershed 03050110-010 is located in Richland, Lexington, and Calhoun Counties and consists primarily of the ***Congaree River*** and its tributaries from its origin to Cedar Creek. The watershed occupies 140,459 acres of the Sandhills and Upper Coastal Plain regions of South Carolina. The predominant soil types consist of an association of the Lakeland-Chewacla-Congaree-Blaney-Fuquay series. The erodibility of the soil (K) averages 0.17 and the slope of the terrain averages 5%, with a range of 0-15%. Land use/land cover in the watershed includes: 54.2% forested land, 21.8% forested wetland (swamp), 11.9% agricultural land, 7.4% urban land, 2.3% water, 2.0% barren land, and 0.4% nonforested wetland (marsh).

The Congaree River originates with the confluence of the Saluda River Basin and the Broad River Basin in the City of Columbia. There are a total of 269.7 stream miles and 643.2 acres of lake waters in this watershed, all classified FW. Rocky Branch flows into the Congaree River within the City of Columbia, followed by the Congaree Creek watershed, Dry Creek, and the Gills Creek watershed. Further downstream, Toms Branch (Silver Lake, Geiger Pond), Big Lake (Cow Cut), and Savany Hunt Creek enter the river. The river then accepts drainage from the Sandy Run watershed and Mill Creek (Reeder Point Branch, Black Lake, Adams Pond, Pinewood Lake, Ulmers Pond, Sunset Lake, Twin Lakes). Big Beaver Creek accepts drainage from Rock Branch, Branham Branch, Little Beaver Creek (Howell Branch, Falls Branch), and Congaree Spring Branch (Hildebrand Branch) before flowing into the Congaree River. Butlers Gut Creek connects Big Beaver Creek to Buyck Bottom Creek (Sikes Creek) and to the river. Bates Mill Creek (High Hill Creek, Speigner Branch, Dicks Swamp) drains into the river at the base of the watershed. There are numerous recreational lakes and river oxbows in this watershed such as Saylors Lake and Dead River. Another natural resource in the watershed is the Congaree National Park, a wetland preserve, which extends along the northeastern riverbank in the lower portion of the watershed.

Surface Water Quality

Station #	Type	Class	Description
CSB-001L	P/SEDM	FW	CONGAREE RIVER AT BLOSSOM ST (SALUDA RIVER)
CSB-001R	P/SEDM	FW	CONGAREE RIVER AT BLOSSOM ST (BROAD RIVER)
C-021	S/W	FW	MILL CREEK AT SC 262
C-022	S/W	FW	MILL CREEK AT US 76 AT PINEWOOD LAKE, 8 MILES SE OF COLUMBIA
C-074	P/INT	FW	CONGAREE RIVER -W BOUNDARY OF CONGAREE NATIONAL PARK
C-010	BIO	FW	BIG BEAVER CREEK AT US 176
C-073	S/W	FW	REEDER POINT BRANCH AT SC 48
RS-01041	RS01	FW	BATES MILL CREEK AT S-09-24, 4MI N OF ST. MATTHEWS

Congaree River **-** There are three SCDHEC monitoring sites along this section of the Congaree River. At the upstream site, reflecting Saluda River influence ***(CSB-001L)***, aquatic life uses are fully supported. In

sediments, di-N-butylphthalate was measured in 1999. A significant decreasing trend in turbidity suggests improving conditions for this parameter. Recreational uses are partially supported due to fecal coliform excursions; however, a significant decreasing trend in fecal coliform bacteria suggests improving conditions for this parameter.

Across the channel at the site reflecting Broad River influence ***(CSB-001R)***, aquatic life uses are not supported due to occurrences of zinc in excess of the aquatic life acute standards. Phenanthrene and di-N-butylphthalate were detected in the 1999 sediment sample. Significant decreasing trends in turbidity and total suspended solids suggest improving conditions for these parameters. At the downstream site ***(C-074)***, aquatic life uses are fully supported; however, there is a significant decreasing trend in dissolved oxygen concentration. There is a significant increasing trend in pH. Recreational uses are fully supported at both sites, and a significant decreasing trend in fecal coliform bacteria suggests improving conditions for this parameter.

Mill Creek - There are two SCDHEC monitoring sites along Mill Creek. Prior to 2001, these were secondary monitoring stations and sampling was intentionally biased towards periods with potentially low dissolved oxygen concentrations. Aquatic life uses are fully supported at the upstream site ***(C-021)***; however, there is a significant increasing trend in total phosphorus concentration. A significant increasing trend in dissolved oxygen concentration and a significant decreasing trend in five-day biochemical oxygen demand suggest improving conditions for these parameters. Recreational uses are partially supported due to fecal coliform bacteria excursions; however, a significant decreasing trend in fecal coliform bacteria suggests improving conditions for this parameter.

At the downstream site ***(C-022)***, aquatic life and recreational uses are fully supported. Significant decreasing trends in five-day biochemical oxygen demand and turbidity suggest improving conditions for these parameters. This is a blackwater system, characterized by naturally low pH and dissolved oxygen concentrations. Although pH excursions were noted at both sites, they were typical of values seen in such systems and were considered natural, not standards violations.

Reeder Point Branch (C-073) - Prior to 2001, this was a secondary monitoring station and sampling was intentionally biased towards periods with potentially low dissolved oxygen concentrations. Aquatic life uses are not supported due to dissolved oxygen concentration and pH excursions. There is a significant increasing trend in pH. A significant decreasing trend in five-day biochemical oxygen demand suggests improving conditions for this parameter. Recreational uses are not supported due to fecal coliform bacteria excursions.

Big Beaver Creek (C-010) - Aquatic life uses are fully supported based on macroinvertebrate community data.

Bates Mill Creek (RS-01041) - Aquatic life uses are fully supported. This is a blackwater system, characterized by naturally low pH and dissolved oxygen concentrations. Although pH excursions are noted at this site, they are typical of values seen in such systems and considered natural, not standards violations. Recreational uses are fully supported.

A fish consumption advisory has been issued by the Department for mercury and includes portions of streams within this watershed (see advisory p.111).

Natural Swimming Areas

FACILITY NAME / ***RECEIVING STREAM***	***PERMIT #*** / ***STATUS***
BOZARDS POND	09-N03
HIGH HILL CREEK	ACTIVE

Groundwater Quality

Well #	Class	Aquifer	Location
AMB-045	GB	MIDDENDORF	FT. JACKSON

NPDES Program

Active NPDES Facilities

RECEIVING STREAM / ***FACILITY NAME*** / ***PERMITTED FLOW @ PIPE (MGD)***	***NPDES#*** / ***TYPE*** / ***COMMENT***
CONGAREE RIVER MARTIN MARIETTA AGGREGATES/CAYCE QUARRY PIPE #: 01A-01C, 02A-02C FLOW: M/R	SCG730263 MINOR INDUSTRIAL
CONGAREE RIVER VORIDIAN PIPE #: 001 FLOW: 100.82	SC0001333 MAJOR INDUSTRIAL
CONGAREE RIVER WESTINGHOUSE ELECTRIC LLC/COLUMBIA PIPE #: 001 FLOW: 0.130	SC0001848 MAJOR INDUSTRIAL
CONGAREE RIVER SCE&G/COLUMBIA HYDRO PLANT PIPE #: 001 FLOW: 0.067	SC0002062 MINOR INDUSTRIAL
CONGAREE RIVER CITY OF COLUMBIA/METRO PLANT PIPE #: 001 FLOW: 60.00	SC0020940 MAJOR DOMESTIC
CONGAREE RIVER CITY OF CAYCE WWTP PIPE #: 001 FLOW: 12.0 PIPE #: 001 FLOW: 16.0, 24.0	SC0024147 MAJOR DOMESTIC PROPOSED
CONGAREE RIVER DEVRO INC./CORIA DIV. PIPE #: 001 FLOW: 0.4	SC0033367 MINOR INDUSTRIAL

CONGAREE RIVER	SC0038865
EAST RICHLAND COUNTY PSD/GILLS CK PLT	MAJOR DOMESTIC
PIPE #: 001 FLOW: 10.5	TIER I
PIPE #: 001 FLOW: 13.0	TIER II
PIPE #: 001 FLOW: 16.0	TIER III
CONGAREE RIVER	SCG641005
CITY OF WEST COLUMBIA/WTP	MINOR DOMESTIC
PIPE #: 001, 002 FLOW: M/R	
CONGAREE RIVER	SC0041386
SC DEPT. AGRIC./CALIBRATION STATION	MINOR INDUSTRIAL
PIPE #: 001, 002 FLOW: M/R	
DRY CREEK	SC0031178
BROOKFOREST MOBILE HOME ESTATES	MINOR DOMESTIC
PIPE #: 001 FLOW: 0.027	
DRY CREEK TRIBUTARY	SC0030988
BELLE MEADE SD	MINOR DOMESTIC
PIPE #: 001 FLOW: 0.08	
DRY CREEK TRIBUTARY	SC0031402
PINEY GROVE UTILITIES/LLOYDWOOD SD	MINOR DOMESTIC
PIPE #: 001 FLOW: 0.1548	
ROCKY BRANCH	SCG730054
VULCAN CONSTR. MATERIALS CO./COLA QUARRY	MINOR INDUSTRIAL
PIPE #: 01A-01C, 02A-02C FLOW: M/R	
TOMS BRANCH	SC0031321
TCH PROPERTIES LLC	MINOR DOMESTIC
PIPE #: 001 FLOW: 0.038	
TOMS BRANCH	SC0033685
ROLLING MEADOWS MHP/HERITAGE	MINOR DOMESTIC
PIPE #: 001 FLOW: 0.0715	
SAVANY HUNT CREEK	SC0040339
SC DEPT OF TRANS./I-26 REST AREA	MINOR DOMESTIC
PIPE #: 001 FLOW: 0.06	
PIPE #: 001 FLOW: 0.10, 0.25, 0.35, 0.50	PROPOSED

Nonpoint Source Management Program

Land Disposal Activities

Landfill Facilities

LANDFILL NAME	***PERMIT #***
FACILITY TYPE	***STATUS***
FORT JACKSON	DWP-098; DWP-910; 405001-1101
DOMESTIC	CLOSED
HUGER STREET DUMP	----------
DOMESTIC	CLOSED
HEMLOCK ROAD DUMP	----------
DOMESTIC	CLOSED

STADIUM ROAD DUMP	----------
DOMESTIC	CLOSED
ROSEWOOD DRIVE DUMP	----------
DOMESTIC	CLOSED
SOUTHEAST CONCRETE	323335-1601; 322448-1601 (IWP-006)
INDUSTRIAL	----------
TAYLOR BROTHERS C&D DUMP	----------
C&D	----------
LEXINGTON COUNTY LANDFILL #1	DWP-030
DOMESTIC	CLOSED
GASTON DUMP	----------
DOMESTIC	CLOSED
CAROLINA EASTMAN	IWP-124
INDUSTRIAL	----------
CALHOUN COUNTY SANITARY LANDFILL	091001-1201;091001-1101 (DWP-045)
DOMESTIC	----------

Land Applications

LAND APPLICATION FACILITY NAME	***PERMIT # TYPE***
SLUDGE INJECTION	ND0069761
BIO TECH, INC.	DOMESTIC

Mining Activities

MINING COMPANY MINE NAME	***PERMIT # MINERAL***
LANIER CONSTRUCTION CO., INC.	0124-63
LANIER ASPHALT PLANT	SAND
LANIER CONSTRUCTION CO., INC.	0946-63
STROUD MINE	SAND
FOSTER-DIXIANA CORP.	0141-63
SILICA PIT	SAND
FOSTER-DIXIANA CORP.	0140-63
DIXIANA MINE	SAND
VULCAN CONSTR. MATERIALS CO.	0133-79
COLUMBIA QUARRY	GRANITE
COLUMBIA SILICA SAND, INC.	0009-63
TRUCK PIT	SAND
BORAL BRICK, INC.	0422-17
ROOF MINE	KAOLIN

Water Quantity

WATER USER STREAM	*REGULATED CAPACITY (MGD) PUMPING CAPACITY (MGD)*
CITY OF CAYCE	9.6
CONGAREE RIVER	14.4

Growth Potential

There is an overall high potential for growth in this watershed, which contains a portion of the City of Columbia. There is a low to moderate potential for residential and industrial growth in the Olympia area of the City of Columbia, and high growth and development for the Congaree Vista area in the downtown area. The Three Rivers Greenway will increase recreational use in this area. Growth is also projected along the I-77 beltway around the city. The Olympia and Bluff Road areas contain heavy industrial development. Only the upper portion of the watershed, near the City of Columbia, has available water and sewer service. The City of Columbia is installing an effluent diffuser in the Congaree River to improve dilution of the treated effluent.

The Cities of West Columbia and Cayce are also located in this watershed. There are plans to extend water and sewer facilities capable of handling residential and industrial development within the next five to ten years. The area around Silver Lake is expected to undergo substantial residential and industrial development. The area south of the City of Cayce, along I-26 and U.S. 321, and the Bluff Road/Shop Road area in Columbia are expected to experience heavy growth. The area along U.S. 176 and U.S. 21 should experience moderate growth, primarily industrial.